

# TODD SHIPYARDS CORPORATION RESEARCH & TECHNICAL DIVISION

## SEALED SOURCE INTEGRITY TEST SERVICES

The Todd Research and Technical Division SIT-1 Kit is designed for use with alpha or beta-gamma emitting sources or for low level gamma sources. It may also be used for testing large radiography gamma sources, where due to the potential radiation hazard, a smear is taken of the inside surface of the source housing, cable, etc., rather than the source capsule itself.

In special cases where a source is permanently fixed into a system, the closest and most accessible surface such as conical port, source housings, etc., may be taken as the smear area. The kit consists of one piece of filter cloth in a plastic zip-lip envelope, wet with our decontamination solution.

For license approval of our service, please refer to "Todd Research and Technical Division SIT-1 Kit" in your application to State of Texas, Division of Licensing, or the NRC Division of Licensing.

### CAUTION

1. Portable survey instruments should be used during all smear testing.
2. Rubber gloves should be worn, especially when handling beta sources.
3. Always use tweezers, tongs, forceps or handles to keep all sources at least one foot away, work with your arms extended
4. Conduct a dry-run on all beta sources in excess of 1 mCi, gamma sources on 60 Co up to 40 mCi and 173 Cs up to 150 mCi, to assure that shielding is sufficient to limit the exposure of personnel doing the test.
5. If the "wet" patch dries out, it should be moistened by adding 1/2 c.c. of water, which renews its effectiveness for testing.

### TO PERFORM TEST

1. Remove the source from its container and place it in a shielded area. (In those cases where it is impractical to remove a permanently fixed source from a special container, it is acceptable to make the smear on an accessible area adjacent to the source, for example, inside a conical beaming port. The source should be kept shielded while smearing the area.)
2. Remove the wet filter cloth from its envelope (by using the zip-lip opening) and thoroughly smear the source or the area of the source container which contacts the source.
3. Replace this smear in the plastic envelope marked "WET SMEAR ONLY" and reseal the zip-lip opening.
4. Place the plastic envelope, along with the "Leak Test Request and Report Form" in the supplied self-addressed envelope and mail to Todd Research and Technical Division.
5. Upon receipt of your completed data sheet and smears from your test, Todd Research and Technical Division will perform the necessary evaluation and will issue a certification of the results. The certificate should be retained for review by the Texas State Compliance Division upon request.

The cost of this service is based on the number of kits returned for assay at any one time. The price for 1 to 5 kits is \$9.00 each, this cost being possible by your remittance of payment with the leak test request, thereby eliminating billing cost. For larger quantities, a leak test price list is available upon request. Kits received that are not prepaid will cause a \$25.00 billing fee to be charged to all customers unless previous arrangements have been made i.e. purchase orders and etc.

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3. Replace this smear in the plastic envelope marked "WET SMEAR ONLY" and reseal the zip-lip opening.
4. Replace the source back into its shielded container.
5. Place the plastic envelope, along with the completed "Leak-Test Inventory and Report Form" in the supplied self-addressed envelope and mail to Todd Research & Technical Division.
6. Upon receipt of your completed data sheet and smears from your test kit, Todd Research & Technical Division will perform the necessary assay and evaluation and will issue a certification of the results. The certificate should be retained for review by your licensing authority upon request.

Send all "SIT-1" Kits to:

**TODD RESEARCH & TECHNICAL  
DIVISION  
P.O. BOX 1600  
GALVESTON, TEXAS 77553  
PHONE - 713 - 744-7141**

ATTN: RAD-CON

CAUTION. Conduct a survey of the outside of each package placed in the U.S. Mails.  
Any reading over 0.5 mr/hr at contact with envelope or package shall not  
be mailed.

LEAK TEST INVENTORY/REPORT FORM

Company Name Union Carbide Corp, Metals Div  
Address P.O. Box 579 City Niagara Falls State NY Zip 14302  
ISOTOPE Cs 137 ACTIVITY 50 mCi  
IDENT./SERIAL NO. CS - 2243 (storage) LEAK TEST DATE 5/23/83  
SMEAR TAKEN BY DR Bresnahan

Do Not Write Below This Line


This is to certify that the above described smear has been assayed at our facilities for  
indication of source leakage under our Texas Radioactive Material License No. 11-871  
(copy available upon request)

Our findings show the leakage to be

ALPHA	BETA-GAMMA
—	4.0005

uCi. (Wet)

Certified by

C.E. McIntosh Jr.  
( Health Physics Representative)  
SUNTRAC SERVICES, INC.

Date 5/27/83

TSC-RT-36  
Rev. 4  
5/2/80

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